I hereby certify that this correspondence and all

for Patents, Washington, D.C. 20231, on

marked attachments are being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner

Michael S. Okamoto, Reg. No. 47,831

Case Docket No. DATUMTE.006A Date: April 18, 2001

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicants** 

William Dean Warner, et al.

Appl. No.

09/771,144

Filed

January 26, 2001

For

WIDEBAND ANALOG

QUADRATURE

MODULATOR/DEMODULA

TOR WITH PRE-

COMPENSATION/POST-

COMPENSATION CORRECTION

Examiner

Unknown

Group Art Unit:

Unknown

# TRANSMITTAL LETTER

## ASSISTANT COMMISSIONER FOR PATENTS WASHINGTON, D.C. 20231

ATTENTION: APPLICATION BRANCH

Dear Sir:

Enclosed for filing in the above-identified application are:

- (X) An Information Disclosure Statement.
- A PTO Form 1449 with twenty-three (23) references. (X)
- The Commissioner is hereby authorized to charge any additional fees which may be required, or (X) credit any overpayment, to Account No. 11-1410.
- Return prepaid postcard. (X)

Michael S. Okamoto Registration No. 47,831

Attorney of Record

### DATUMTE.006A

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	William Dean Warner, et al.	) Group Art Unit: Unknown
App. No.	:	09/771,144	)
Filed	:	January 26, 2001	RECEIVED
For	·:	WIDEBAND ANALOG QUADRATURE MODULATOR/DEMODULA TOR WITH PRE- COMPENSATION/POST- COMPENSATION CORRECTION	MAY 3 0 2001 ) Technology Center 2600 ) )
Examiner	:	Unknown	) ') _)

### INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents Washington, D.C. 20231

# Dear Sir:

We are enclosing a form PTO-1449 listing twenty-three (23) references that are also enclosed. This Information Disclosure Statement is being filed within three months of the filing date of this application, and no fee is required in accordance with 37 C.F.R. § 1.97(b)(1).

Identification herein is not an admission that any of the foregoing references are prior art to the above-captioned application.

Appl. No.

09/771,144

Filed

January 26, 2001

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: April 18, 2001

Bv:

Michael S. Okamoto

Registration No. 47,831

Attorney of Record

620 Newport Center Drive

Sixteenth Floor

Newport Beach, CA 92660

(949) 760-0404

MSO-1922.DOC:rh 041701 **FORM PTO-1449** 

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE ATTY. DOCKET NO. DATUMTE.006A

APPLICATION NO. 09/771,144

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(USE SEVERAL SHEETS IF NECESSARY)

**APPLICANT** William Dean Warner, et al.

**GROUP** 

FILING DATE January 26, 2001 Unknown

U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
	3,950,750	4/13/76	Churchill, et al.			
	4,003,054	1/11/77	Goldstone			
	5,369,411	11/29/94	Lisle, Jr.			
	5,381,108	1/10/95	Whitmarsh, et al.			
	5,872,538	2/16/99	Fowler			
						-

		_	FOREIGN PATENT DOCUMENTS				
EXAMINER	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
INITIAL						YES	NO
	WO 98/32221	7/23/98	PCT			-	

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)				
	A.I. Sinsky, et al., Error Analysis of a Quadrature Coherent Detector Processor, IEEE Transactions On Aerospace and Electronic Systems, November 1974, pp. 880-883.				
	F.E. Churchill, et al., <i>The Correction of I and Q Errors in a Coherent Processor</i> , IEEE Transactions On Aerospace And Electronic Systems, Vol. AES-17, No. 1, January 1981, pp. 131-137.				
	J. Roome, Analysis of quadrature detectors using complex envelope notation, IEEE Proceedings, Vol. 136, Pt. F, No. 2, April 1989, pp. 95-100.				
	M. Faulkner, et al., Automatic Adjustment Of Quadrature Modulators, Electronics Letters, Vol. 27, No. 3, January 31, 1991, pp. 214-216.				
	J.K. Cavers, et al., Adaptive Compensation for Imbalance and Offset Losses in Direct Conversion Transceivers, IEEE Transactions On Vehicular Technology, Vol. 42, No. 4, November 1993, pp. 581-588.				
	A. Lohtia, et al., An Adaptive Digital Technique For Compensating For Analog Quadrature Modulator/Demodulator Impairments, IEEE Pac Rim 1993, pp. 447-450.				
	M. Faulkner, et al., Adaptive Linearization Using Predistortion – Experimental Results, IEEE Transactions On Vehicular Technology, Vol. 43, No. 2, May 1994, pp. 323-332.				
	A. Mansell, et al., Practical Implementation Issues For Adaptive Predistortion Transmitter Linearisation, IEE, 1994.				
	S.A. Leyonhjelm, et al., The Effect of Reconstruction Filters on Direct Upconversion in a Multichannel Environment, IEEE Transactions On Vehicular Technology, Vol. 44, No. 1, February 1995, pp. 95-102.				
	A. Lohtia, et al., Adaptive digital linearization of RF power amplifiers, Can. J. Elect. & Comp Eng., Vol. 20, No. 2, 1995.				
	J.K. Cavers, A Fast Method for Adaptation Of Quadrature Modulators And Demodulators In Amplifier Linearization Circuits, IEEE 1996, pp. 1307-1311.				
	G. Yang, et al., I/Q Modulator Image Rejection Through Modulation Pre-distortion, IEEE 1996, pp. 1317-1320.				
	J.K. Cavers, The Effect of Quadrature Modulator and Demodulator Errors on Adaptive Digital Predistorters for Amplifer Linearization, IEEE Transactions Of Vehicular Technology, Vol. 46, No. 2, May 1997, pp. 456-466.				

EXAM	INER
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DATE CONSIDERED

FORM P	TO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. DATUMTE.006A	APPLICATION NO. 09/771,144		
INFO	ORMATION DIS	SCLOSURE STATEMENT		·		
BY APPLICANT			APPLICANT William Dean Warner, et al.			
(US	£ 3 <b>⊕</b> /€RĀL <b>&amp;</b>	NEERS IF NECESSARY)	FILING DATE January 26, 2001	GROUP Unknown		
	APR 2 0 2	100				
EXAMINER INITIAL	Ž.	97	(INCLUDING AUTHOR, TITLE, DATE, PERTINEN	T PAGES, ETC.)		
	Technology, Vol. 46, No. 3, August 1997, pp. 707-716.					
K. Gerlach, et al., An Adaptive Matched Filter that Compensates for I, Q Mismatch Errors, IEEE Transactions On Signal Processing, V December 1997, pp. 3104-3107.						
	R. Marchesani, Digital Precompensation of Imperfections in Quadrature Modulators, IEEE Transactions On Communications, Vol. 48, No. 4, April 2000, pp. 552-556.					

J.D. Owen, A Comparison Of Wide Bandwidth Quadrature Demodulators Using Computer Modelling, date and origin not known.

· MSO-1879.DOC:rh 041701 RECEIVED

MAY 3 0 2001

Technology Center 2600

EXAMINER

DATE CONSIDERED